

CLAIMS

1. A titanium oxide-organic polymer composite material for artificial bone obtained by forming titania gel on the surface of said base material by titania solution treatment to dip into a solution of 0°C to 50°C temperature for from several seconds to 1 week obtained by adding a solution consisting of acidic alcohol and water into alcohol solution of titaniumtetraalcoxide to a base material composed of a polymer compound selected from a group consisting of polyolefin, polyester and nylon, and modifying to a titanium oxide membrane which forms apatite having similar Ca/P atom ratio to an apatite of mammalian's bone in supersaturated aqueous solution to apatite or from a body fluid of mammalian by dipping said base material on the surface of which titania gel is formed into hot water of 50°C to 95°C or solution of room temperature to 95°C to which acid is added.

2. The titanium oxide-organic polymer composite material for artificial bone of claim 1, wherein titaniumtetraalcoxide is tetrakisopropyltitanate, alcohol is ethanol and acid is inorganic acid.

3. The titanium oxide-organic polymer composite material for artificial bone of claim 1 or claim 2, wherein polyolefin is low-density polyethylene, polyester is polyethyleneterephthalate and nylon is 6-nylon.

4. The titanium oxide-organic polymer composite material for artificial bone according to anyone of claims 1, 2 or 3, wherein the solution for titania solution treatment is prepared by dipping a solution composed of acidic alcohol and water to a solution of titaniumtetraalcoxide and alcohol maintaining the temperature to 0°C to 10°C.

5. A composite for artificial bone prepared by obtaining a titanium oxide-organic polymer composite material for artificial bone obtained by forming titania gel on the surface of said base material by titania solution treatment characterizing dipping into a solution of 0 °C to 10 °C temperature for from several seconds to 1 week obtained by adding a solution consisting of acidic alcohol and water into alcohol solution of

titaniumtetraalcoxide to a base material composed of a polymer compound selected from a group consisting of polyolefin, polyester and nylon, and modifying to a titanium oxide membrane which forms apatite having similar Ca/P atom ratio to an apatite of mammalian's bone in supersaturated aqueous solution to apatite or from a body fluid of mammalian by dipping said base material on the surface of which titania gel is formed into hot water of 50°C to 95°C or solution of room temperature to 95°C to which acid is added, then forming an apatite by dipping said composite into supersaturated aqueous solution to apatite.

6. The composite material for artificial bone of claim 5, wherein titaniumtetraalcoxide is tetraisopropyltitanate, alcohol is ethanol and acid is inorganic acid.

7. The composite material for artificial bone of claim 5 or claim 6, wherein titanium oxide-organic polymer for artificial bone is obtained by using low-density polyethylene as polyolefin, polyethyleneterephthalate as polyester and 6-nylon as nylon.

8. The titanium oxide-organic polymer composite material for artificial bone according to anyone of claims 5, 6 or 7, wherein the solution for titania solution treatment is prepared by dipping a solution composed of acidic alcohol and water to a solution of titaniumtetraalcoxide and alcohol maintaining the temperature to 0°C to 10°C.